TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

October 12, 2004

a.K

TO:

Internal File

THRU:

James D. Smith, Senior Reclamation Specialist/Hydrologist/Team Lead 75

FROM:

Jerriann Ernstsen, Ph.D., Environmental Scientist, Biology.

RE:

Replacement of Volume 11, Energy West Mining Inc., PacifiCorp, Deer Creek

Mine, C/015/018, Task ID #2032

SUMMARY:

PacifiCorp received Division approval for the North Rilda Lease in July 1997 and the Mill Fork Lease in March 2003. In both submittals, the Permittee had no plans for surface disturbance within the North Rilda Lease area.

The Division received an application on November 4, 2003 to request authorization for a 10.2-acre facilities pad in Rilda Canyon. This application was not adequate for a technical review. On September 2, 2004, the Permittee resubmitted the application, which includes a major revision to move the facilities area about one mile further west in Rilda Canyon.

The plan includes disturbing surface areas for a portal, sediment pond, storage areas, 157 stall parking lot, bathhouse, parking garage, and other small facilities. The Permittee has thoughtfully limited the footprint of disturbance by moving the facilities area to avoid stream alterations as well as building a three-story building.

The Permittee requires this facilities area primarily to develop a new portal that will reduce travel distance to the mine workings. Current access to the Mill Fork lease work area is from the Deer Creek portal. The Permittee investigated alternative accesses to the coal reserves in Mill Fork. They selected Rilda Canyon as the "only viable option" for the access. This access will shorten the travel distance by about half (Rilda meeting, 08132003).

This memo provides evaluations of the Biology and Land Use/Air Quality sections in the Deer Creek Mine North Rilda Canyon Portal Facilities amendment.

TECHNICAL ANAYLSIS:

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: 30 CFR 777.11; R645-301-120.

Analysis:

The list below provides editorial or clarity issues associated with the Biology and Land Use chapters that the Permittee must address (R645-301-121.200). The tab "Volume 11 Appendix Volume Biology (Section 300) Appendix E" does not include a document. Pagination appears incorrect for the second of two reports "Plant Communities Of The New North Rilda Canyon Portal Facilities Area 2004". Specifically, after page 24 there are three cover pages followed by pages 29, 28, 27, 26, 25, 25, 26-37. Either provide the Collins map with the riparian area or clarify the map to reflect Collins statement (see Environmental - Vegetation Information section for details). Clarify why there are only two community types planned for disturbance (see Environmental - Vegetation Information section for details). Clarify that the USGS macroinvertebrate data may supplement the surveys conducted during and after 2004 (see Environmental - Fish and Wildlife Information section for details).

The document drafted by Terry Nelson and Pam Jewkes (United States Forest Service USFS; 2004 revised) "Wildlife Resources Report For The State Of Utah School And Institutional Trust Lands Administration Access On **East Mountain** Project" in Volume 11 Appendix Volume – Engineering section does not apply to the North Rilda Canyon project. The Permittee must either remove the report from Volume 11 or show how the report is relavent to the North Rilda Canyon area. If the Permittee decides to retain this report, then relocate the report from the Engineering Section (Volume 11 Appendix Volume) to an appropriate location.

Findings:

Information provided in the plan does not meet the minimum Permit Application Format and Contents in General Contents requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

R645-301-121.200, • Remove the tab "Volume 11 Appendix Volume Biology (Section 300) Appendix E" or provide the document. • Reorganize the pages in one of the "Plant communities of the new North Rilda Canyon portal facilities area 2004" reports. • Either provide the Collins map with the riparian area or clarify the map

to reflect Collins statement. • Clarify why there are only two community types planned for disturbance. • Clarify that the USGS macroinvertebrate data may supplement the surveys conducted during and after 2004. • Either remove the Terry Nelson and Pam Jewkes 2004 report from Volume 11 or show how the report is relavent to the North Rilda Canyon area.

REPORTING OF TECHNICAL DATA

Regulatory Reference: 30 CFR 777.13; R645-301-130.

Analysis:

Qualified professionals conducted or directed the surveys and analysis for the supporting biology- and archeology-related documents cited in Volume 11 2004. The USFS 2004 report was not written to include Rilda Canyon area and does not apply to the proposed North Rilda project.

Findings:

Information provided in the plan meets the minimum Reporting of Technical Data in General Contents requirements of the regulations.

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.12; R645-301-411.

Analysis:

The plan includes two historical resource documents that cover the proposed facilities and adjacent areas. Both of these documents are in the Division's Confidential File. The bulleted list below summarizes the documents:

- Senulis J (Senco-Phenix) September 30, 2003
 - ◆ Utah State Project Authorization NO. UO3SC0793f.
 - ◆ Location (USGS Quad; Township Range Section T/R/S):
 - Rilda Canyon, Utah and Hiawatha, Utah; T16S/R7E/S 22, 27, 28
 - ♦ Recommendations:
 - Senulis does not recommend any historical findings for nomination to the National Register of Historic Places (NRHP). A finding of no effect is appropriate and the

project should receive clearance without stipulation. There is only a remote chance of finding undetected resources in the future.

- 42EM1332 historical finding was previously nominated, but Senulis does not consider the project will impact this site.
- ◆ State Historic and Preservation Office (SHPO) communications: The Division initiates the consultation process with SHPO prior to the approval of a submittal.
- ♦ Division comments: The report details that the Comfort, Helco, and Rominger mines were never given archeological site designations and were reclaimed (by the Division) in the late 1980s. The nominated site 42EM1332 it is not within the facilities area.
- Senulis J (Senco-Phenix) July 28, 2004
 - ♦ Utah State Project Authorization NO. UO4SC0518f.
 - ◆ Location (USGS Quad; Township Range Section T/R/S):
 - Rilda Canyon, Utah and Hiawatha, Utah; T16S/R7E/S 22, 28, 29
 - Recommendations:
 - Senulis recommends 42CB3236 historical finding for nomination to the NRHP. Senulis considers that if the Permittee follows the 2004 MRP, then operations will have no effect to this site. If the Permittee changes the MRP to include impacting this site, Senulis supports a stipulation to test 42CB3236. The test should include determining the degree of vandalism and extent of deposition. Senulis recommends that SHPO and USFS develop a mitigation plan.
 - Senulis does not recommend the other three historical findings to the NRHP. A finding of no effect is appropriate and the project should receive clearance with the stipulation for 42CB3236. There is only a remote chance of finding undetected resources in the future.
 - ♦ SHPO communications: The Division initiates the consultation process with SHPO prior to the approval of a submittal.
 - ◆ Division comments: The report details that 42CB3236 is on land owned by CO-OP Coal Development Company. This area is near a possible bat den (see sketch in report).

The Senulis documents also describe old mines within or adjacent to the proposed facilities area that were developed in the late 1930's and 1940's. These mines include the Leroy, Jeppson, Comfort, Rominger, and Helco mines. Volume 11 (2004) approximate dates of operations for these "historic" mining projects within the Rilda Canyon area. The associated map (400-1; DS1880D) illustrates locations and boundaries of these "historic" mining sites. None of the previous surveyors or Senulis deem these mines as eligible.

The Division assesses that the Permittee should not conduct additional historical resource surveys or evaluations at this time because:

• The proposed facilities area is not near eligible sites 42EM1332 or 42CB3236.

- There are no known NRHP eligible sites within the facilities area.
- There is little probability of unknown NRHP eligible sites within the facilities area.

The Division supports a finding of "no effect" to historic resources and that the permit should receive clearance without stipulations. Final decision concerning the proposed project comes after the Division receives a response from SHPO.

Part 2 "Environmental Resources" (Volume 1) includes information related to archeology, vegetation, soil, wildlife, and land use. There are no tabs delineating the subjects. There are also surveys and other related documents scattered throughout Part 2 that are normally located in Appendices. One of these documents is a 173-page report "Archeological Sample Survey And Cultural Resource Evaluations Of The East Mountain Locality In Emery County, Utah". The Permittee must relocate this report in the Confidential File (R645-300-124.330).

There are no cemeteries, parks, trails designated by National Systems of Trails, or rivers designated as Wild and Scenic Rivers.

It is important for the Permittee to understand that workers must avoid all historical resources during the life of the project. In the event that construction or operations uncover historical resources, the Permittee must stop all work near the resources and notify the Division. The Permittee, Division, and other appropriate parties will develop a strategy to avoid the site or mitigate the impacts at that time.

Findings:

Information provided in the plan does not meet the minimum Environmental - Historic and Archeological Resource Information requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

R645-300-124.330, Relocate the report "Archeological Sample Survey And Cultural Resource Evaluations Of The East Mountain Locality In Emery County, Utah" to the Confidential File.

VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

Analysis:

The proposed facilities site elevation is around 7,500' to 8,000' and will disturb approximately 12.1 acres. Twelve percent or 1.5 acres of the 12.1 were previously disturbed.

Dr. Patrick Collins of Mt. Nebo Scientific, Inc. conducted the two surveys and named both "Plant Communities Of The New North Rilda Canyon Portal Facilities Area 2004" (Appendix B, Appendix Volume, Volume 11 2004). Collins conducted the field surveys during 2003 and 2004. The 2003 survey included the area east of the North Emery Water Special Service District (NEWUSSD) springs. This area was originally planned for disturbance. The 2004 survey included the area west of the NEWUSSD springs.

The 2004 Collins document included a quantitative survey of the proposed facilities and corresponding reference areas. Dr. Collins applied the Division's approved "Vegetation Survey Guidelines" for cover and woody species density. Results showed that there are three major plant communities within the facilities area: white fir/aspen, sagebrush/grass, and pinyon juniper/mountain brush. The document provided GPS coordinates of the communities (page 6 of 2004 Collins document).

Dr. Collins compared cover and woody plant density between the proposed facilities and reference areas, but did not demonstrate similarity for composition. The Permittee must demonstrate similarity between the reference and disturbed areas (R645-301-356.110; see page 5 of "Vegetation Information Guidelines").

The Permittee must provide productivity values for each community type within the proposed disturbed area as well as corresponding reference areas (R645-301-356.110). For this amendment, the results should include three values for the disturbed area and three values for the corresponding reference areas. Include the new values in the Environmental - Vegetation and Land Use chapters.

Patricia Johnston (1997) conducted a vegetation assessment within the North Rilda lease area (Appendix A, Volume 11 Appendix Volume). One goal was to qualitatively assess the potential impact to threatened, endangered, or sensitive (TES) species from mining-related subsidence. Bob Thompson (USFS) recommended that the only TES species worth assessing was the canyon sweetvetch. The results show that this species was not observed.

The second goal of the 1997 assessment was to define and map vegetation community types of the entire Rilda Canyon area (1960 acres). The map is missing from the document. The Permittee must include the vegetation map described in the Johnston document (R645-301-323.400; R645-301-122; see Maps and Plans section for the deficiency).

The MRP defines the community types for the North Rilda Canyon area as mixed coniferous forests, pinyon-juniper woodlands, mountain brush lands, and riparian areas. The USFS-derived vegetation map (300-1; DS1875C; Volume 11 2004) illustrates these community types with the riparian area as a narrow strip near the proposed facilities area. This map also illustrates aspen forestlands to the west and north of the proposed facilities area.

The Collins (2004) vegetation map (Volume 11 Appendix Volume Biology Appendix B) identifies somewhat different communities than the USFS map. Some of the differences may be attributable to scale difference between the maps (Collins at 1":100" vs USFS at 1":1000"). The Division expects that the most recent on-the-ground survey would provide a more clear description of the area than the USFS generated map. The Collins map, however, does not include a riparian area near the facilities area. Collins stated (Jerriann Ernstsen, October 4, 2004 email communication) that the map illustrates the riparian area as a cottonwood/blue spruce community type. The Permittee must either provide the Collins map with the riparian area or clarify the map to reflect Collins statement (R645-301-121.200; see Permit Application Format and Contents section for the deficiency).

The Collins 2004 and 2003 reports discuss reference areas for the following communities: sage/grass, pinyon/juniper (undisturbed), white fir/aspen, and pinyon/juniper (AML – 2003 report). The MRP states (Volume 11 page 300-1) that, of the reference areas surveyed, the established reference areas will include sage/grass, pinyon/juniper (undisturbed), and pinyon/juniper (AML). The Collins map, however, illustrates the white fir/aspen and pinyon/juniper (AML) reference areas, and excludes sage/grass and pinyon/juniper (undisturbed) reference areas. The Permittee must provide a vegetation map showing all the "established" reference areas (see R645-301-323.100 for deficiency).

The Permittee states that the disturbance will impact two plant communities (Volume 11 page 300-12). It appears, from the Collins vegetation map, that disturbance will impact three primary communities: sage/grass, pinyon/juniper, and white fir/aspen. Possibly the Permittee does not consider that operations will impact the white fir/aspen community. The Permittee must clarify why there are only two community types planned for disturbance (R645-301-121.200). If disturbance includes white fir/aspen, then the Permittee must establish a white fir/aspen reference area (R645-301-321.100).

Findings:

Information provided in the plan does not meet the minimum Environmental - Vegetation Resource Information requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

R645-301-356.110, Demonstrate similarity between the reference and disturbed areas for each community type. • Establish a white fir/aspen reference area.

R645-301-321.200, Provide productivity values for each community type within the proposed disturbed area.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.21; R645-301-322.

Analysis:

The proposed facilities site elevation is around 7,500' to 8,000' and will disturb approximately 12.1 acres. Twelve percent or 1.5 acres of the 12.1 were previously disturbed.

UNGULATES

See Joe Helfrich review of ungulates.

OTHER MAMMALS INCLUDING BATS

See Joe Helfrich review of bears and large cats.

The Permittee must conduct a bat survey this fall (2004) or next spring (2005) prior to disturbance using the best available methodology (R645-301-322.100, R645-301-322.200). The bat biologist must survey within the surface facilities and adjacent areas, including the Rilda Creek and the area near the archeology site 42EM3236 (refer to Senulis, July 2004. The survey must include evaluations for all the state-listed sensitive species. It is important to conduct the survey during expected bat activity (weather dependent - May through late October). The Permittee must incorporate the report into the MRP upon compilation. The Division may require a protection, enhancement, or mitigation plan if the survey indicates negative impacts to bats within the North Rilda Canyon area.

The area could have potential roosting and foraging bat habitat within the project area, especially for the spotted and Townsend's big-eared bats. These bats (and others) use echolocating for hunting. Each species may use different frequencies to echolocate. The Permittee must provide the engineering specs that include frequency ranges for the exhaust and intake fans (R645-301-322.100). The Permittee must address possible impact to bats in the protection and enhancement plan (section R645-301-333) if frequencies of the fan and echolocating bats overlap. The fan requirement is independent of the bat survey results because fan-operating frequencies could impact other species, such as owls.

MACROINVERTIBRATES AND FISH

The proposed facilities area partially borders Rilda Creek - a tributary to Huntington Creek. In the late 1970's, USGS and Utah Department of Natural Resources collaborated to assess hydrology resources within the Huntington Creek drainage (USGS Open-File Report 81-

539; Division February 2003 Incoming Files Record #0009). The assessment included evaluating macroinvertebrates at the confluence of Rilda and Huntington creeks.

The Permittee plans to use the USGS report as its baseline macroinvertebrate evaluation for North Rilda Canyon project. The USGS survey, however, is over 20 years old (refer to R645-301-121.100) and provides an evaluation for the macroinvertebrates only at the confluence. The Permittee must clarify that the USGS data may supplement (not serve as the baseline analysis) the surveys conducted during and after 2004 (see R645-301-121.200 for deficiency).

The Permittee must conduct spring and fall aquatic baseline survey and post-disturbance surveys (R645-301-322.100, R645-301-322.200). The protocol for obtaining aquatic baseline data, that the Divison, USFS, and DWR supports, includes to conduct spring and fall surveys for two consecutive years. DWR (Craig Walker) conducted the first spring macroinvertebrate and fish baseline surveys in 2004 and plans to conduct all fish baseline surveys. The Permittee must also conduct the spring and fall aquatic post-disturbance surveys the first spring and fall after construction begins for the main facilities site (R645-301-322.100, R645-301-322.200). The Division may require a protection, enhancement, or mitigation plan if the post-disturbance survey indicates negative impacts to the macroinvertebrates or fish adjacent to the North Rilda Canyon project.

All surveyors must use the same protocol and sampling locations provided in the 2004 Walker document. The Permittee must include the baseline and post-disturbance survey commitments in section R645-301-322 and incorporate all reports and follow-up analysis into Volume 11 Appendix Volume upon compilation.

The Permittee must also conduct macroinvertebrate-monitoring surveys every three years in the spring (R645-301-322.100, R645-301-322.200). DWR conducts fish surveys in the Huntington drainage and will most likely include Rilda Creek as part of their wildlife management plan. The Division considers that macroinvertebrate monitoring surveys should provide enough information to track changes to Rilda Creek. The Permittee must include the monitoring survey commitment in section R645-301-322 and provide all reports and follow-up analysis into annual reports. The Division may require a protection, enhancement, or mitigation plan if the monitoring surveys ever indicate negative impacts to the macroinvertebrates adjacent to the North Rilda Canyon project.

Walker conducted the 2004 spring survey for macroinvertebrates at three sampling sites: at the Rilda and Huntington confluence, below (south) the facilities area proposed in August 2003, and approximately 90' up (west) the right fork of Rilda Creek. Utah State University will analyze the field data and samples and submit the spring 2004 results in the fall 2004.

Walker (2004) conducted an electrofishing survey from the Rilda and Huntington

confluence to about 100' below the right fork of Rilda Creek. The results were positive for brown and cutthroat trout. The USFS expected a natural barrier, located about 100' above the confluence, to prevent fish traveling up Rilda Creek. Walker observed, however, cutthroat fish above the barrier. After the survey, the logs forming the natural barrier were dislodged. DWR and USFS now consider that it is possible that brown trout will also travel up Rilda Creek during their fall spawning season. DWR and USFS consider that cutthroat (and possibly brown trout) movement into Rilda Creek will enhance the fishery in the Huntington drainage. Walker recommends minimizing sedimentation and limiting reductions in water quality.

The Permittee must address the Colorado River cutthroat trout and its habitat. This species is known to exist in Emery County (R645-301-322.210).

GAME BIRDS, MIGRATORY BIRDS, AND RAPTORS

The USFS 2004 report (Volume 11 Appendix Volume Biology Appendix B; cited in Volume 11 page 5) does not apply to the North Rilda Canyon project. The report discusses many species of birds that may have nesting or foraging habitat in the East Mountain area. The Permittee must provide information concerning migratory and other sensitive bird species specific to the North Rilda Canyon project area (R645-301-322.100, R645-301-322.200).

The Permittee plans to conduct yearly raptor surveys for their permit area, including the North Canyon Rilda area. The MRP includes the 2004 raptor survey results (Appendix C, Appendix Volume, Volume 11 2004) conducted by DWR as well as a 2004 raptor nest location map (Volume 11 2004). The results show that there is a golden eagle nest (#1205) within approximately 3000' from the facilities area, which is over the 0.5-mile buffer zone. The surveyors note this nest as "Tended" in 2003 and "Inactive" for 2004. The Division visited the area during the spring of 2004 and observed a pair of golden eagles near this nest.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL/PLANT SPECIES

The USFS 2004 report provides the list of threatened or endangered species that could occur in Emery County, Utah. The list includes the bald eagle, Mexican spotted owl, blackfooted ferret, Canada lynx, southwestern willow flycatcher, western yellow-billed cuckoo, bonytail chub, humpback chub, and razor back sucker. The MRP, however, must include a formal and current list from the USFWS (R645-301-322.210). The Utah Conservation Data Center (DWR) has no record of occurrence for Federally listed threatened or endangered species within the proposed project area.

The Permittee must include an overview of habitat and occurrence data for all the TE species in Emery County, the Manti-LaSal National Forest sensitive species, and any other state listed sensitive species. Include whether the North Rilda project area potentially includes specific habitats or individuals for each species. (R645-301-322.200.)

Plants

The Permittee reports that plant biologist (P. Collins, P. Johnston, or B. Thompson) have not observed federally listed threatened or endangered species within or near the proposed project area. The USFS designated specific species as sensitive for the Manti-La Sal National Forest. The project area may have habitat for the following sensitive species: *Astragalus montii* (Monti's milkvetch), *Hedysarum occidentale* var. canone (canyon sweetvetch), *Silene petersonii* (plateau catchfly), and *Aquilegia flavescens* (yellow columbine). Collins (2004) conducted the most recent on-the-ground vegetation survey. The results showed that there were no TES plant species or ideal habitats for canyon sweetvetch or link trail columbine within the facilities area.

Mexican Spotted Owl

Figure 300-1 (Volume 11 2004) illustrates a shape file of the MSO 2000 model showing potential nesting and foraging habitats around Price area, including Rilda Canyon. The model results predict that Rilda Canyon area contains potential foraging habitat. The MRP does not include similar results for the MSO 1997 model. This model uses different parameters and provides different results than the 2000 model. The MRP also does not include the results of the ground-truthing survey. The Permittee must provide the results from the 1997 model and survey (R645-301-322.100, R645-301-322.200).

The Permittee must provide at least the following information from the MSO ground-truthing survey:

- Surveyor name (Division requires a copy of license to conduct MSO)
- Survey criteria
- Map showing area surveyed and locations (GPS) of observed habitats
- Summary
 - Occupied and suitable habitat.
 - Possible impacts to owls and their habitat by the project.

These requirements will help design a protection and enhancement plan if the results are positive for MSO.

Findings:

Information provided in the plan does not meet the minimum Environmental - Fish and Wildlife Resource Information requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

R645-301-322.100, R645-301-322.200, • Conduct a bat survey this fall (2004) or next spring (2005) prior to disturbance using the best available methodology. •

Conduct spring and fall aquatic baseline surveys. • Conduct spring and fall aquatic post-disturbance survey. • Conduct macroinvertebrate-monitoring surveys every three years in the spring. • Provide information concerning migratory and other sensitive bird species specific to the North Rilda Canyon project area. • Provide the results from the MSO 1997 model and a MSO ground-truthing survey.

- R645-301-322.100, Provide the engineering specs that include frequency ranges for the exhaust and intake fans. Include a formal and current TES list from the USFWS.
- **R645-301-322.200**, Provide an overview of habitat and occurrence data for all the TE species in Emery County, the Manti-LaSal National Forest sensitive species, and any other state listed sensitive species.
- **R645-301-322.210**, Address the Colorado River cutthroat trout and its habitat. Include a formal and current TE list from the USFWS.

LAND-USE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.22; R645-301-411.

Analysis:

The USFS classifies the North Rilda Canyon project area as winter range (critical/high priority) and summer range (high priority) for elk and summer range (high priority) for mule deer, mining and mineral development, and general timber and grazing rangeland (Volume 11 Chapter 4 page 1). The MRP provides maps delineating locations and boundaries for wildlife and vegetation resources as well as for historic mining sites. The MRP does not include a current evaluation for vegetation productivity (see R645-301-321.200 for deficiency). The MRP also does not include a monetary evaluation of the timber proposed for removal within the project area (R645-301-411.120).

One of the current land uses within the Rilda Canyon area is a USFS trail. The Permittee agrees to construct a new trailhead and parking pad at the east end of the facilities site. The trail runs east west and will extend past the facilities site.

Findings:

Information provided in the plan does not meet the minimum Environmental - Land-Use Resource Information requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

R645-301-411.120, Provide a monetary evaluation of the timber proposed for removal within the project area.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Archeological Site Maps

The Senco-Phenix 2003 and 2004 reports (Division's Confidential Files) provide maps that illustrate past and present areas surveyed as well as observed sites.

Cultural Resource Maps

The Senco-Phenix 2003 and 2004 reports (Division's Confidential Files) provide maps that illustrate past and present areas surveyed as well as observed sites.

Vegetation Reference Area Maps

Vegetation map, Drawing #: DS1875C designates the vegetation community types within and adjacent to the North Rilda portal facilities site.

Provide the missing map referenced in the Johnston (1997) vegetation evaluation (Appendix A, Volume 11 Appendix Volume). (R645-301-323.400; R645-301-122; see Environmental - Vegetation Information section for details.)

The Collins 2004 report (Volume 11 Appendix Volume Biology Appendix B) provides a detailed vegetation map of the proposed project area. The results show that there are three major plant communities within the facilities area: white fir/aspen, sagebrush/grass, and pinyon juniper/mountain brush. The map illustrates the sampling locations for the proposed disturbed sites for each community type and for two of three associated reference areas. The map does not include the sampling location for the reference area for the sagebrush/grass and pinyon/juniper (undisturbed) community types. The Permittee must provide a vegetation map showing all the "established" reference areas (R645-301-323.100; see Environmental - Vegetation Information section for more details).

Monitoring and Sampling Location Maps

The Walker 2004 report (Volume 11 Appendix Volume Biology Appendix D) provides a monitoring location map for the macroinvertebrate and fish surveys in Rilda Creek.

Volume 11 contains a commitment to continue to analyze vegetation changes every five years using infrared technology. Results should illustrate if continued mining operations impact vegetation.

Findings:

Information provided in the plan does not meet the minimum Environmental - Maps, Plans, and Cross Section Resource Information requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

R645-301-323.400, **R645-301-122**, Provide the missing map referenced in the Johnston (1997) vegetation evaluation.

R645-301-323.100, Provide a vegetation map showing all the "established" reference areas.

OPERATION PLAN

PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

Regulatory Reference: 30 CFR784.17; R645-301-411.

Analysis:

The Permittee does not include the results of the most recent historic survey conducted in 2004 (Senulis). In the 2004 document, Senulis recommends site 42CB3236 to the National Register of Historic Places. The Permittee must discuss the results of the 2004 survey and detail the stipulations of the contractor for that site (R645-301-411.144).

Findings:

Information provided in the plan does not meet the minimum Operations - Protection of Public Parks and Historic Places requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

R645-301-411.144, Discuss the results of the Senulis 2004 survey and detail the stipulations of the contractor for that site 42CB3236.

FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

Analysis:

The Biology section in Operations of the MRP is inadequate. The Division cannot make any determinations at this time for any wildlife-related subject under the Operations Section. The Permittee made no mention of a protection, enhancement, or mitigation plan for wildlife, and provided unrelated information in the Operations section.

The Permittee states (Reclamation section) that wildlife resources will be protected by installing "buffer zone" signage along the stream channel, locating the facilities area downstream of the left and right fork of Rilda Creek, and ceasing haulage trucks to and from the existing Rilda Canyon fan. The Division recommends relocating all the information in Section R645-301-342 in the Operations section under R645-301-330.

The Permittee must provide an adequate plan for the protection of wildlife resources during construction and operations phases, including weekly water monitoring (R645-301-330). Address all applicable exclusionary periods (big game, birds, others) as they relate to construction schedules. The Permittee should use the wildlife-related information provided below (Operations - Fish and Wildlife Information) as a guideline to follow for this requirement.

Protection and Enhancement Plan

JOE: Make sure timing of construction addresses exclusionary periods for elk, deer, and moose. Must include any ungulate-related mitigation/protection plans that the USFS drafts in the future. Include a general deficiency. This general deficiency is needed since the USFS has not reviewed the project, yet.

JOE: Must include any large cat-related mitigation/protection plans that the USFS drafts in the future. Include a general deficiency. This general deficiency is needed since the USFS has not reviewed the project, yet.

The Permittee must address the rat mitten above the proposed facilities area. The USFS requires that the Permittee include provisions to protect this mitten.

The Permittee must conduct a bat survey using the best available technology recommended by a bat biologist. The Division may require a protection, enhancement, or mitigation plan if the survey results are positive for bats.

The Permittee must conduct macroinvertebrate "post-disturbance" and "monitoring" surveys. The Division may require a protection, enhancement, or mitigation plan if the post-disturbance or monitoring surveys indicate negative impacts to the macroinvertebrates adjacent to the North Rilda Canyon project..

The Permittee must address the Colorado River cutthroat trout. The Division may require a protection, enhancement, or mitigation plan if it is probable that mining operations will impact individuals or its habitat.

The Permittee must provide information concerning migratory and other sensitive bird species. Depending on the information, the Division and other agencies may require a protection, enhancement, or mitigation plan for mitigating bird species and their habitats.

The Permittee plans to conduct yearly raptor surveys for their permit area, including the North Rilda Canyon project.

The Permittee must describe a protection plan for electrical wire and power pole infrastructure for the facilities area. Aboveground power lines must follow the guidelines developed by the Environmental Criteria for Electric Transmission Systems or the Division. The Permittee must implement new power pole configuration designed to maintain adequate spacing. The new configuration includes a minimum distance of 60 inches between energized hardware or between phases or between phases and ground wires to provide safe perching for large raptors (eagles). This information will assist the Division in determining whether the Permittee is proposing the best technology and if the configuration will minimize electrocution hazards to raptors. (R645-301-358.510). It is important to note that West Ridge mine, developed in the Book Cliffs coalfield in 1998, located all power lines underground. The Division suggests the same best technology for the North Rilda Canyon project.

Endangered and Threatened Species

The Permittee must include an overview of habitat and occurrence data for all the TE species in Emery County, the Manti-LaSal National Forest sensitive species, and any other state listed sensitive species. The Division may require a protection, enhancement, or mitigation plan if data indicates habitat or individuals within or adjacent to the North Rilda project area.

Mexican Spotted Owl

The Permittee must conduct a MSO ground-truthing survey. The Division will require a calling survey for individuals if the ground-truthing survey is positive for habitat. If surveyors observe individuals, the Division may require a protection, enhancement, or mitigation plan for MSO.

Colorado River Fish

Adverse effects of mining on water quantity to the Colorado River drainages do affect four Colorado River endangered fish species (Colorado pikeminnow, humpback chub, bonytail chub, and razorback sucker). The USFWS considers depletions or changes to contributions to the Colorado River drainage as a potential jeopardy to these endangered fish. Water users may be required to mitigate if the there are considerable changes to contributions or if water consumption is greater than 100 acre-feet per year. Currently, the mitigation fee is approximately 16.00 per acre-foot of depletion, but may change marginally from year to year.

The Permittee must address possible adverse affects to these four fish species by first calculating the amount of water used or contributed by all mining operations. The Permittee may use the following paper as a guideline "Windy Gap Process As It Applies To Existing Coal Mines In The Upper Colorado River Basin". In brief, consumption values must at least include the following:

- Mining consumption
- Ventilation consumption
- Coal producing consumption
- Ventilation evaporation
- Sediment pond evaporation
- Springs and seep effects from subsidence
- Alluvial aquifer abstractions into mines
- Alluvial well pumpage
- Deep aquifer pumpage
- Postmining inflow to workings
- Coal moisture loss
- Direct diversions
- Dust suppression (not mentioned in Windy Gap).

Through effects of water quantity and quality on the river, the mine could adversely affect the four Colorado River endangered fish species. The Permittee must provide all equations and justifications with supporting documentation leading to the overall sum of water depletions or additions for all mining operations and explorations including dust control in section R645-301-333. (R645-301-333.) Also, provide the overall change in water as a result of new development or changes in operations.

The Permittee must resubmit water consumption calculations

• If original submittal was based on estimates prior to mining. Submit actual values during the midterm review.

• If future changes in mining operations significantly change current total estimates. Submit new values with amendment related to change in mining operations.

Bald and Golden Eagles

The Permittee plans to conduct yearly raptor surveys for their permit area, including the Rilda area. The Division may require a protection, enhancement, or mitigation plan if it is probable that current mining operations will impact individuals or its habitat.

Wetlands and Habitats of Unusually High Value for Fish and Wildlife

The Permittee must submit a plan to protect Rilda Creek during construction of the facilities site (R645-301-333). Stream channel areas in and adjacent to the permit area may experience constructions pressures (e.g., heavy traffic, large equipment, oil spills, dust) that may compromise the integrity of the stream channel and affect water quality. Any disturbance to the stream channel may impact vegetation and wildlife that utilize the stream.

Findings:

Information provided in the plan does not meet the minimum Operations - Fish and Wildlife Information requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

- **R645-301-330**, Provide an adequate plan for the protection of wildlife resources during construction and operations phases, including weekly water monitoring. .
- R645-301-333, Provide all equations and justifications with supporting documentation leading to the overall sum of water depletions or additions for all mining operations and explorations including dust control in section R645-301-333. Submit a plan to protect Rilda Creek during construction of the facilities site.
- **R645-301-358.510**, Describe a protection plan for electrical wire and power pole infrastructure for the facilities area.

VEGETATION

Regulatory Reference: R645-301-330, -301-331, -301-332.

Analysis:

The Biology section in Operations of the MRP is inadequate. The Division cannot make any determinations at this time for any vegetation-related subject under the Operations Section. The Permittee made no mention of a protection, enhancement, or mitigation plan for vegetation, and provided unrelated information in the Operations section. The Permittee must provide an adequate plan for the protection of vegetation resources for this section (R645-301-330). The Division recommends discussing parts of the plan that reduces the overall disturbance "footprint". Also, may want to include provisions if, during construction or operations, workers locate sensitive or TE plant species.

Findings:

Information provided in the plan does not meet the minimum Operations - Vegetation Information requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

R645-301-330, Provide an adequate plan for the enhancement, or mitigation of vegetation resources during construction and operations.

RECLAMATION PLAN

GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

Analysis:

The vegetation- and land use- related information below provides commentary of the reclamation plan and how the plan addresses the regulations.

Findings:

Information provided in the plan meets the minimum Reclamation - General Requirements of the regulations.

POSTMINING LAND USES

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

Analysis:

The postmine land use is grazing, wildlife, and recreation. During mining construction, the Permittee agrees to construct a new trailhead and parking pad at the east end of the facilities site. Reclamation will include removal of the trail extension and parking pad as well as restoring road to the original location.

Findings:

Information provided in the plan meets the minimum Reclamation - Postmining Land Uses requirements of the regulations.

PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

Regulatory Reference: 30 CFR Sec. 817.97; R645-301-333, -301-342, -301-358.

Analysis:

The Division recommends relocating all the information in Section R645-301-342 in the Operations section under R645-301-330. This information considers protection only during operations. The Permittee must address wildlife concerns during reclamation and postmining phases. Also, provide an adequate plan for the protection of wildlife resources during reclamation, including weekly water monitoring. (R645-301-342, R645-301-358.) Describe plans for avoiding and protecting the stream channel during reclamation work. Consider enhancement measures for wildlife and compatibility of plant species and wildlife grazing requirements.

Findings:

Information provided in the plan does not meet the minimum Reclamation - Protection of Fish, Wildlife, and Related Environmental Values requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

R645-301-342, **R645-301-358**, Address wildlife concerns during reclamation and postmining phases. Also, provide an adequate plan for the protection of wildlife resources during reclamation, including weekly water monitoring.

CONTEMPORANEOUS RECLAMATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.100; R645-301-352, -301-553, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

General

The Permittee plans to use the same seed mixes for interim and final reclamation.

The reclamation project will begin at the far western boundary and proceed down Rilda Canyon. Seeding and planting will immediately follow backfilling and grading as they work down the canyon.

Findings:

Information provided in the plan meets the minimum Reclamation - Contemporaneous Reclamation requirements of the regulations.

REVEGETATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

Revegetation: General Requirements

Tables 300-3 and 300-4 provide species list for the pinyon/juniper and sage/grass seed mixes, respectively. Currently, there is no specialized seed mix for the white fir/aspen community type. The MRP states that this community will receive the pinyon/juniper mix at time of reclamation. The Division is concerned about using the pinyon/juniper seed mix so close to the riparian area. The Division requires either a separate seed mix for the white fir/aspen community or a more appropriate mix in conjunction with transplants nearest the stream channel (R645-301-353.240).

The seed mixes include a variety of species and a proportion of plant forms than appear similar to those found in associated reference areas. The Division, however, requires the replacement of rabbitbrush and saltbrush with more appropriate shrub species, such as those found in the three primary community types (R645-301-353.240). Both the rabbitbrush and saltbrush can be fast spreading and out compete more desired species for the community types of the area.

The Division suggests planting container plants of the shrub species listed in the seed mixes. These transplants will augment seeding in areas commonly difficult for seed to germinate

e.g., steep slopes, southern exposures and extremely windy sites. Transplants will contribute to soil stabilization (R645-301-353.140) and wildlife habitat enhancement (R645-301-342.100).

Revegetation: Timing

Table 300-1 is a general reclamation timetable. According to this timetable, phase I (earthwork) begins during winter months, mulching, seeding, and planting during the growing season. The reclamation project will begin at the far western boundary and proceed down Rilda Canyon. Seeding and planting will immediately follow backfilling and grading as they work down the canyon.

Table300-2 is monitoring program timetable relating to bond release. The Permittee plans to conduct vegetation monitoring during the 4th, 8th, 9th, and 10th years following reclamation.

Revegetation: Mulching and Other Soil Stabilizing Practices

The Permittee will conduct earthwork immediately followed by seedbed preparation and seeding. They will begin the project at the far west end of the North Rilda Canyon boundary and work down the canyon. Seedbed preparation will include:

- Amending the soil with 2000lbs./acre of certified noxious weed free alfalfa hay.
- Pocking to provide water-catching sites and incorporate the hay.
- Seeding with native seed mixes.
- Hydromulching with 1500lbs./acre of wood fiber or other acceptable product.
- Applying a tackifier at the manufacturers recommended rate.
- Placing signs around the site to limit access and ensure slope protection.

The Permittee may consider using the track hoe to cast some dead trees and large rocks back onto the reclaimed surface. This debris would provide solar protection and increases available moisture in small areas as well as increases topographic and vegetation diversity.

Revegetation: Standards For Success

The Permittee must use the Division's approved sampling techniques listed in the Division's "Vegetation Guidelines, Appendix A". Qualitative surveys will include sampling reclaimed sites for cover, woody species density, and diversity in years four, eight, nine, and ten. The Permittee must include scheduling plans for measuring productivity during the extended period of responsibility (R645-301-357.200).

The disturbed area has three different community types. The Division will measure success of the revegetated sites to three reference areas, unless the Permittee provides a viable

reason for having only two as currently proposed. Success measurements include evaluating the effectiveness and permanence of the vegetation for the approved postmine land use as well as the extent of cover compared to the reference area. The Permittee will meet success standards when ground cover and production rates are not less than 90% of the standard at the 90% confidence level.

Two of the postmine land uses for this plan are wildlife and recreation. Success standards for wildlife require that tree and shrub stocking rates, planting arrangement, and value are appropriate for the proposed postmine land use. The Division and coordinating agencies determine the minimum tree and shrub parameters. The Permittee will meet success standards when:

- Density attains at least set rates.
- Trees and shrubs are healthy.
- 80% of trees and shrubs are in place at least 60% of the extended responsibility period.

The Permittee must provide the stocking rates and suggested stocking species (R645-301-356.231). This stocking information must come from the Division. The Permittee must also discuss related information concerning tree and shrub stocking (R645-301-356.232, R645-301-357.310).

There is no plan to irrigate following reclamation.

The Permittee plans to implement weed and rodent control plans only if needed. There are no details in the plan and no discussion that DWR approve a rodent control plan. The Permittee must remove the discussion or provide the Division with a detailed plan for review (R645-301-357.332.). The Division recommends removing the discussion and if a problem arises to contact the Division at that time. The Division contacts coordinating agencies and develops a reasonable plan.

The Permittee plans to follow regulations associated with repair of rills and gullies.

Findings:

Information provided in the plan does not meet the minimum Reclamation – Revegetation requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

R645-301-353.240, • Develop either a separate seed mix for the white fir/aspen community or a more appropriate mix in conjunction with transplants nearest the stream channel. • Replace rabbitbrush and saltbrush with more appropriate shrub species, such as those found in the three primary community types.

- **R645-301-357.200**, Include scheduling plans for measuring productivity during the extended period of responsibility.
- R645-301-356.231, Provide the stocking rates and suggested stocking species.
- R645-301-356.232, R645-301-357.310, Discuss related information concerning tree and shrub stocking
- **R645-301-357.332**, Remove the discussion on rodents or provide the Division with a detailed plan for review.

RECOMMENDATION

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